

What we claim and desire to secure by Letters Patent is:

1. A method of treating, in wastewater purification, sludge containing organic matter, divalent iron and phosphorus, wherein

the sludge that is treated is made to contain dissolved iron and phosphorus at a molar ratio Fe:P of above 1:1;

the sludge is treated at 0-100°C with an acid at a pH of 1-5 for dissolution of divalent iron and phosphorus from the sludge;

the sludge is supplied with an oxidiser selected from hydrogen peroxide and percompounds, whereby divalent iron is oxidised by Fenton's reaction to trivalent iron; and

(i) trivalent iron is precipitated as trivalent iron phosphate;

(ii) free radicals with a deodorisation and sanitisation effect are formed by Fenton's reaction;

the sludge is then dewatered at a pH of at most 7; and

the aqueous solution obtained in dewatering is recirculated to the wastewater purification.

2. A method as claimed in claim 1, wherein the sludge is acid treated with sulphuric acid, formic acid or oxalic acid.

3. A method as claimed in claim 1 or 2, wherein the sludge is acid treated for 10 min to 2 h.

4. A method as claimed in claim 1, wherein the sludge that is treated is made to contain iron and phosphorus at a molar ratio Fe:P from above 1:1 to 1.5:1.

5. A method as claimed in claim 1, wherein the sludge is supplied with additional divalent iron before the adding of an oxidiser.

6. A method as claimed in claim 1, wherein the oxidiser is selected from at least one of hydrogen peroxide, sodium percarbonate and peracetic acid.

7. A method as claimed in claim 1, wherein the oxidiser is hydrogen peroxide.

8. A method as claimed in claim 1, wherein the sludge is supplied with hydrogen peroxide as an oxidiser in an amount of 10-100 kg, preferably 30-60 kg, 100% hydrogen peroxide per tonne of dry solids.

9. A method as claimed in claim 1, wherein the sludge is supplied with a dewatering aid before dewatering.

10. A method as claimed in claim 1, wherein the sludge is predewatered with a centrifuge or a rotary screen.

11. A method as claimed in claim 1, wherein the sludge is finally dewatered with a centrifuge, screw press, chamber filter press or band filter press.

12. A method as claimed in claim 1, wherein the sludge is dewatered to a solids content of at least 30% by weight.

13. A method as claimed in claim 1, wherein the sludge is dewatered to a solids content of 35-60% by weight.